

ASTRALLOY SOLUTIONS

Astralloy-V[®] Bar

"We currently use the Astralloy-V Bar for the downhole motor and we've noticed it works better than the 4330 and 4340."

– Valued Customer



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The best place to use the Astralloy-V® Bar is in the drive shafts/bearing mandrels on the motor assembly. This application takes extreme torque, twist and flex. The through-hardness of the Astralloy-V provides a good wear surface for the bearings in the mandrels. This works well in other applications, and performs exceptionally well where downhole motors are being used for directional drilling; outperforming all the others.

TECHNICAL SPECIFICATIONS

Astralloy-V® is a unique, deep air-hardened steel that is rich in chemical composition and physical properties. It is through-hardened and unsurpassed in resistance to impact and abrasion. With continuous impact and abrasion, Astralloy-V can reach a hardness in excess of 550 BHN without brittleness.

SOLUTION

The greatest benefit of the Astralloy-V Bar solution from Astralloy is the longer service life it provides for directional drillers. This product delivers the greatest strength of any material in this application. The longer a drilling motor works, the more distance that can be drilled at one time. From a repair standpoint, the Astralloy-V Bar holds up and does not have to be replaced as often.

Chemical Composition* – % Weight							
C	Mn	P	S	Si	Ni	Cr	Mo
.29	1.20	0.015	.010	.40	4.00	2.00	.50

Physical Properties – Typical Values at 68°F				
BHN Hardness	Tensile Strength	Yield Strength	Elongation in 2"	Charpy Test Toughness Index
418 – 512	241 ksi	157 ksi	12%	22 ft. lbs. @ RT

Comparative Benefits	
Astralloy-V Air Hardened	Quenched and Tempered Wear Steel
1. Hardness combined with toughness	1. Hardness with less toughness
2. Work hardenability up to 550 BHN	2. No work hardening ability
3. Lower coefficient of friction	3. Higher coefficient of friction
4. Excellent cold weather properties	4. Loss of properties at lower temperatures
5. Cold and hot formable and weldable, without loss of properties	5. Loss of properties during heating and welding

Note: The data contained in this document is accurate at time of printing, and intended for use as a general guide.
* Typical maximum values. Mill certifications are available upon request.



Call Us Today to Discuss Your Optimal Solution for Your Downhole Motor Project.

Toll-free: **866.587.6970** • Sales: **724.230.5100** | sales@astralloy.com